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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,084	01/15/2002	Takaya Sato	0171-0811P-SP	2914

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EXAMINER
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LE, HOA VAN

ART UNIT	PAPER NUMBER
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1752

DATE MAILED: 07/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/045,084	Applicant(s) SATO ET AL.	
	Examiner Hoa V. Le	Art Unit 1752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2004.  
 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-13 and 15-27 is/are pending in the application.  
     4a) Of the above claim(s) 1, 5-13 and 15-27 is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 2-4 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☒ Claim(s) 1-13 and 15-27 are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☒ The drawing(s) filed on 15 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \*    c) ☐ None of:  
         1. ☒ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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This is in response to Paper received on 01 June 2004.

A. The record shows that all claims from 1-26 were considered and searched in the Office action mailed on 01 March 2004 with (1) the broadest claim 2 being independently considered and searched and (2) others being integrally considered and searched only as set up on the record.

B. There is an amendment with an independent method claim set, claims (2-4) being newly added. It has not been independently considered and searched on the record. Accordingly, a restriction is made as followed:

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1, 5-13 and 15-27, drawn to a powder mixture, classified in class 252, at least subclass 502 and the record.
- II. Claims 2-4, drawn to rotational process, classified in class 541, at least subclass 328 and 330 that has not been considered or searched on the record.

Inventions Group I and Group II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, (1) a mixture of relatively large particles being in contacting with plural particles having relatively small size as claimed can be made by many convention and known mixing

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processes in the art, (2) The record shows applicant could not be able to show or provide a convincing evidence for the patentability of the claimed product-by-process as set forth and requested on the record over any one of the applied references on the record at the least for now because about two dozen additional references will be in line to be applied as being notified on the record. (3) applicant is one again urged to show or provide a convincing evidence for the unusual or unexpected result of the claimed product-by-process over each and all large and small contacting particle mixtures in the art for a patentability of the claimed product-by-process. (4) In the absence of convincing evidence, the restriction on the record would not be withdrawn.

Because these inventions are distinct for the reasons given above and have acquired the separate status and searches in the art and can be supported the separate patents as divided by applicants and have no evidence of the record that are not required the separate consideration and search since they are the obvious variants because the prior art being applied to one of them would be sufficient against all inventions, restriction for examination purposes as indicated is proper. Applicant should show or provide an evidence to the contrary. In the absence of convincing evidence, the restriction would not be removed.

During a telephone conversation with Garth M. Dahlen on 29 June 2004 a provisional election was made with traverse to prosecute the invention of Group II, claims 2-4. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1, 5-13 and 15-27 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention. This application contains claims 1, 5-13 and 15-27 drawn to an invention nonelected with traverse. A complete reply to the final rejection must include

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cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP

§ 821.01.

C. The newly added and elected method claims 2-4 are newly and independently considered and searched.

D. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al (6,517,974).

Kobayashi et al disclose, teach and suggest a method of making and obtaining a mixture of relatively large particles being in contacting with plural particles having relatively small size comprising the steps of placing a relatively large battery active material particles and relatively small electrically conductive particles in a container and rotating and revolving the container.

Please see the whole disclosure or the applied reference, especially at

FIG. 4 is a model representation of the apparatus with which the mechanical grinding is performed. FIG. 5 is a top view of the apparatus of FIG. 4, as seen from above.

The crystalline material 205 and the material 206 that becomes electrochemically inert are placed in a closed container 102, 202 with a cooling jacket 103, 203. A main shaft 101, 201 are rotated (revolved) so that rings 104, 204 are rotated on their own axes. A centrifugal force generated adds an acceleration to the materials placed in the apparatus, so that the material particles collide one another. Repeated collision among the particles causes the crystalline material 205 to have an amorphous phase, and urges the amorphous material 205 and the material 206 to form a composite material. Finally, as shown in FIG. 5, the collision energy forms a composite material 207 with an amorphous phase in which the material 206 uniformly covers the active material 205.

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Making an active material containing an amorphous portion by the mechanical grinding method increases the sites where lithium ion can be intercalated and de-intercalated, compared with the crystalline material before it is subjected to the mechanical grinding. When performing the mechanical grinding, lithium compound is added so that lithium ion can enter the sites to increase the capacity of the electrodes. The added lithium compounds include hydroxide, nitride, sulfide, carbonate, alcoxide, etc. In particular, lithium nitride exhibits ionic conduction and therefore lithium nitride is

containing a lithium alloy. Amorphous carbon containing carbon blacks such as ketjen black and acetylene black, natural graphite, and artificial carbon such as hardly-graphitized carbon and easily-graphitized carbon may also be used. In addition, amorphous vanadium pentoxide may also be used.

Examples 1-17 and Comparative Examples 1-9. Kobayashi et al fail to cite the property of the action or process of rotating and revolving would that would cause any moisture to be evaporated from the mixture. At the level of one skilled in the art it has reason to believed that a mechanical movements of rotating and revolving would generate amount of mechanical heat to evaporate an moisture and make more and all particles to come to contact with air to carry a moisture away. Accordingly, the claimed property with respect "dry" in the claimed method is inherent. It is required by law that applicant must show or provide an evidence to the contrary as clearly pointed out and set forth on the record in the Office action mailed on 01 March 2004 at paragraph "III" since an argument alone may have and be given a little to no value. It is urged that applicant comes forth with a convincing evidence to the contrary for the patentability of the above applied claims to speed up the prosecution and to avoid any later work when someone could be able to produce, show or provide an inherent property from prior art.

E. Applicant's arguments with respect to the mixture-by-process have been considered but have and be given a little to no value since the record shows that applicant could not be able to

show or provide a convincing evidence for the patentability of the claimed product-by-process as set forth and requested on the record over the applied references on the record at the least for now because about two dozen additional references will be in line to be applied as being notified on the record. The product-by-process claims are not elected. Applicant elects the newly amended and added method claims.

F. Applicant's amendment and election necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

G. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoa V. Le whose telephone number is 571-272-1332. The examiner can normally be reached from 6:30 AM to 4:00 PM on Monday though

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Thursday and about the same time of most Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark F. Huff can be reached on 571-272-1385

Applicants may file a paper by (1) fax with a central facsimile receiving number 703-872-9306,

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hoa V. Le  
Primary Examiner  
Art Unit 1752

HVL  
30 June 2004

HOA VAN LE  
PRIMARY EXAMINER  
